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ABSTRACT

Examining census data on each of 3,100 U.S. counties for 1950, 1960, and 1970, the amount of net migration was analyzed in terms of general urban to rural migration, migration and Standard Metropolitan Statistical Area (SMSA) adjacency, 26 rural county subregions, and the kinds of county characteristics associated with population change. Results indicated: rural county growth of more than 4% between April 1970 and July 1973 as compared with an urban growth rate of 3%; a net rural migration of more than 1,000,000 between 1970-73; a steady decline of urban migrants over the 23-year period; an increase in the rate of net migration to SMSAs with fewer than 250,000 people between 1970-73; a higher rate of inmigration among the 629 rural counties not adjacent to a SMSA than among any metropolitan category; population growth among all 26 subregions between 1970-73; a reversal among the 7 subregions which had had declining populations during the 60's; a higher growth rate among rural counties with State colleges; a consistent association between the migration of older people for recreation/retirement purposes and total population growth and net migration in both adjacent and nonadjacent counties; growth among southern counties with less than 5% black population; recent growth among counties with an agricultural workforce; and no correlation between recent rural growth and rural areas already dependent upon manufacturing. (JC)

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THE NEW PATTERN OF NONMETROPOLITAN POPULATION CHANGE

Calvin L. Beale and Glenn V. Fuguitt

CDE Working Paper 75-22

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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THE NEW PATTERN OF NONMETROPOLITAN POPULATION GROWTH

The increasing concentration of people in and around large cities has always been a major dimension of population redistribution in the United States. Those concerned with population trends generally have assumed that this process will continue into the future, as an almost inevitable concomitant of economic development and increasing organizational complexity. There is recent evidence, however, of a new trend, in which remote areas are growing more rapidly and gaining net migrants at a higher rate than is the metropolitan territory. In this paper we will examine the new pattern of redistribution by comparing population changes according to residence in metropolitan and nonmetropolitan areas for three periods between 1950 and 1973. We have taken into consideration specific residence subgroups, geographic subregions, and selected factors associated with differential growth and migration.

In the 1960s, the United States passed through a time of acute consciousness of the movement of people from rural and small town areas into the metropolitan cities. Concern about rural-urban migration as a potential problem was heightened by the ghetto riots of the time, although suppositions about the rural origins of rioters proved largely unfounded. With this there also came a growing awareness of increasing urban problems of poverty, pollution, crime, congestion, and other real or suspected effects of large-scale massing of people.

It is ironic that this concern came after the peak of rural-to-urban movement had already passed. Rapid rural outmovement had been occurring since 1940, with the beginning of World War II. It

continued in the 1950s as farms consolidated and labor became redundant through the continued mechanization of agriculture. From 1940 to 1960, a net average of more than one million people left the farms annually, though not all moved to metropolitan cities. By the time that alarm over rural-to-urban migration arose around 1965, the economy of the nonmetropolitan areas, as well as the social outlook and affluence of metropolitan residents, were already changing in ways that would lead to a halt in the net outflow. Since 1970, changes in rural and urban population flows have occurred so rapidly that nonmetropolitan areas are not only retaining people but are receiving an actual net inmigration as well. Most of our attention here is directed toward this unanticipated event.

DATA AND PROCEDURES

The basic units in our inquiry are 3100 counties and county equivalents which include the entire population of the nation.[1] We have used a current metropolitan definition, treating as nonmetropolitan only those counties not in Standard Metropolitan Statistical Areas as of September 1974. (County equivalents for SMSAs were used in New England). Further residential refinement is obtained through a classification of nonmetropolitan counties as adjacent and not adjacent to an SMSA. In addition to geographic contiguity, counties classed as adjacent had at least one percent of their labor force commuting to the metropolitan central county for work in 1970. (Hines, Brown, and Zimmer, 1975: 3).

We recorded the inhabitants in each county for 1950, 1960 and 1970 from published census sources. The amount of net migration for

1950-60 and 1960-70 was taken from data for each county published in two Current Population Reports (U.S. Bureau of the Census, 1962, 1972).

For the period since the Census of 1970, the best source of population data is the Bureau of the Census Federal-State Cooperative series of county estimates, published annually. (U.S. Bureau of the Census, 1974). Accurate local population estimates are not easy to make. Nevertheless, the estimates of the Bureau for 1966 (the only county series in the 1960s) caught clearly the nonmetropolitan turnarounds of that period in the Ozarks, Tennessee Valley, Texas hill country, and Upper Great Lakes cutover lands, although mistaking the direction of trend in the Mississippi Delta. Subsequent improvement of the techniques, and the strength of the demographic changes now occurring bolster confidence in the current series. Forstall (1975) points out also that Census Bureau staff members have confirmed the general results of the Federal-State Cooperative series by comparing them with two almost wholly independent sources of data on post-1970 population change. One must not lose sight of the fact that these are estimates, however, and not the result of a census or survey. Although there is reason to have confidence in the general trends, any individual county figure could be in error to a significant degree.

We will begin this analysis by comparing annual rates of growth and net migration for groups of counties which show residence distinctions in detail, differentiating metropolitan counties by size of SMSA, and nonmetropolitan counties by adjacency and by size of largest city in the county. Next we examine the proportion of counties that are growing and the proportion gaining net migrants

over each time period. Nonmetropolitan counties of the nation have been delineated into 26 subregions and we compare their growth and migration patterns in the following section. Finally we take up several county characteristics associated with increased or decreased growth in nonmetropolitan areas and discuss the implications of these trends. This research extends earlier work reported by the senior author. (See Beale, 1975).

RESULTS

Growth and Type of Residence

The remarkable recent reversal of long term population trends is demonstrated by the growth of nonmetropolitan counties of more than four percent between April 1970 and July 1973, compared with approximately three percent in metropolitan counties. Table 1 also gives net migration numbers and rates for the three time periods, 1950-60, 1960-70 and 1970-73. In the 1950s more than six million people left the counties that were nonmetropolitan as of 1974. Increased retention is evident in the 1960s when the amount of out-migration was halved, and in the 1970-73 period there was a net inmigration of more than one million persons to nonmetropolitan counties. Over the 23 year period the numbers of migrants into metropolitan areas dropped steadily. There was a small net inmovement of people to metropolitan areas in 1970-73, less than one half that to nonmetropolitan areas. Net inmovement could occur in both categories because the total population grew partly by net inmigration from abroad.

A common first reaction to these data and the basic change they indicate is to ask whether the higher nonmetropolitan growth and increase through net migration is not just increased suburbanization from adjacent metropolitan counties. Answering this question requires a detailed consideration of county location both inside and outside metropolitan areas. This we have done in Table 2. Here, and in subsequent tables, annual rates of population change and net migration are presented to facilitate comparisons between the two 10 year and the 3 1/4 year time periods.[2]

The metropolitan categories in the table show that there has been a shift down the size scale in the pattern of growth and gain due to net migration. In the 1950s, fringe counties of SMSAs of one million or more were growing twice as rapidly as the other groups of metropolitan counties, whereas in the 1970-73 period they were equalled by counties of SMSAs having less thean 250,000 population. The core counties of SMSAs of one million grew almost as rapidly as the smallest SMSAs between 1950 and 1960, but in the most recent period they barely grew in population, and were the only metropolitan or nonmetropolitan group considered that had a negative net migration. SMSAs with fewer than 250,000 people on the other hand, had an increase in the rate of net inmigration in comparing 1970-73 with 1960-70.

These annual rates also show the magnitude of the change in population growth that has taken place in the nonmetropolitan sector. Although the percent change is a little over four percent both in the 1960s and the early 1970s, correcting for the different time intervals reveals that nonmetropolitan counties grew less than one-

half one percent a year in the first of these periods, and more than one percent a year in the second. The classification of nonmetropolitan counties by adjacency clearly indicates that recent growth is not just metropolitan spillover. Adjacent counties do have higher population growth and net migration gain since 1970. Their growth due to net migration, 702,200 is 5/8ths of the total of 1,122,000 acquired by nonmetropolitan counties. Note, however, that nonmetropolitan counties that are not adjacent to SMSAs grew more rapidly, and gained more through net migration than all metropolitan counties, and considering groups within the metropolitan sector, they gained more through net migration than core counties of SMSAs of more than 1 million, or SMSAs of 250,000 to 1 million. Since a 1974 SMSA designation is used, one might expect in comparing the three time periods that the growth advantage of adjacent location would increase with the metropolitan and suburban development of the past 25 years. In comparing adjacent and nonadjacent counties, however, there is a declining differential in population growth over all three periods, and in net migration over the last two periods.

To what extent is nonmetropolitan growth and inmigration associated with local urbanization or the potential development of new metropolitan areas? To examine this question, we have classified nonmetropolitan counties, both adjacent and not adjacent to SMSAs, according to the size of the largest incorporated center in the county in 1970. As might be expected, in 1950-60 and 1960-70, counties with larger communities grew more or declined less than other counties, and showed a similar relationship with their annual rates of net migration. This was true both for adjacent and nonadjacent counties, with adjacent counties having higher rates within size of place categories.

In other words, the pattern of results reveals both a size of place and an adjacency effect, consistent with the view that growth goes along with both local urbanization and metropolitan expansion.

For 1970-73, however, this pattern is quite different. Within size of place groups adjacent counties still show higher rates than those not adjacent to SMSAs. But counties without an urban center, both in adjacent and nonadjacent locations, had the highest rates of population change and net migration. The 629 rural counties not adjacent to an SMSA together had a higher rate of inmigration than any metropolitan category, and higher than any nonmetropolitan group except for the 274 adjacent rural counties. Among nonadjacent counties, the next highest population change and net migration rates were for those having cities of over 10,000 population. Among adjacent counties, however, the size of place differential is just reversed from that of the previous two decades, with counties having places over 10,000 showing the lowest rates, those with places 2,500 to 10,000 next, and rural counties with largest place under 2,500 showing the highest annual rates of population change and net migration in the entire table.

There is considerable variation among counties that may be obscured by these group rates. Nearly 600 nonmetropolitan counties were declining in population in 1970-73, but this was less than one half the nearly 1300 counties declining in the 1960s, or the 1457 declining in the 1950s. The percent of counties growing in population and the percent gaining by net migration are given by location in Table 3. We see that four out of 10 nonmetropolitan counties were growing in the 1950s, about one half in the1960s, and over three-fourths in the early 1970s. Even more striking is the increase in

the proportion of nonmetropolitan counties gaining by net migration, from 12 to 22 to 63 percent. The proportion of counties so gaining is considerably nearer the proportion increasing in population in the early 1970s than previously, no doubt because natural increase was by then a much smaller component in population growth. The differentials in proportions by location are consistent with the annual rates in Table 2. Note that in 1970-73 well over one-half of the counties in all locations were growing and also well over one-half were gaining net migrants. Differentials, particularly between metropolitan and nonmetropolitan counties, are considerably less then before, although an individual county still is slightly more likely to grow or gain net migrants if it is metropolitan.

A Subregional Comparison

Our concern thus far has been with different groupings of counties within the nation as a whole. Yet we know there are also important economic and social differences between geographic subareas of nonmetropolitan America. Last year, in a similar analysis of recent trends in cities and villages, we delineated 26 subregions by grouping together State Economic Areas of reasonably similar basic characteristics of economy, history, physical setting, settlement patterns and culture. (Beale and Fuguitt, 1974). These subregions are shown in Map 1, and in Maps 2 and 3 we present for them the annual rates of nonmetropolitan population change and net migration over 1950-60, 1960-70, and 1970-73.

Considering first the old trend, prior to 1970, several patterns are evident. The northern and southern Great Plains (Subs. 22, 23)

were major areas of rural outmigration during the 1950s and 1960s. Population change rates were lower in the latter decade, showing absolute declines in both subregions, but there was also increased population retention, with rates of outmigration lower then than in the 1950s. This area of commercial grain and cattle agriculture is where the greatest number of declining counties are found in the nation. The old Cotton Belt subregions with a large black population (Subs. 15 and 16) have a pattern similar to that in the Great Plains. These subregions had nonmetropolitan population decline in both decades, though both this decline and net migration loss were less in the second decade. The Southern Appalachians (Sub. 11), widely recognized as a rural problem area, had the largest rates of population decline and net outmigration for 1950-60 and 1960-70 among the 26 subregions, though again losses were less in the 1960s than the 1950s.

Another pattern was that of three turnaround subregions in the South (Subs. 10,19, and 20). These basically white areas were well along in their shift from agriculture by 1960. During the succeeding decade they had rapid nonagricultural economic growth, being major beneficiaries of the decentralization trend of manufacturing that took place in the 1960s. The Ozark-Ouachita area also had extensive development of reservoir centered recreation and retirement districts. These areas all went from population decline in the 1950s to growth in the 1960s. The Ozark-Ouachita subregion went from negative to positive net migration as well, with the other two moving from a large to a very small negative net migration figure.

The Upper Great Lakes, and the Dairy belt (Subs. 6 and 7) showed a marked increase in nonmetropolitan population growth, and corresponding decline in net outmigration for 1960-70 as compared with 1950-60. Such increased growth was a "turnaround" for these northern areas, much of which had suffered earlier decline from the exhaustion of timber and mining resources or farming adjustments. Exurban sprawl around the Twin Cities area was no doubt one factor in the Dairy subregion, but increased retirement settlement and recreation, along with some gain in manufacturing employment are considered major factors in the postwar growth of these upper middle west areas.

The Blue Ridge and Southern Piedmont areas (Subs. 12 and 13) also increased in population growth in the 1960s compared with the 1950s. Most other areas, however, went in the other direction, with lower growth rates in the latter decade. The Coastal Tobacco and Peanut Belt went from growth to decline, as did the Northern Great Plains already mentioned. The largest decline, however, was found in the Rio Grande subregion (21), which went from 1.5 percent a year growth in the 1950s to essentially zero in the 1960s. Parts of this region went through exceptional growth from military or mining developments in the 1950s, followed by comparative stability or outright decline in the 1960s.

The Northeastern Metropolitan Belt, Florida, the Northern Pacific Coast, and the Southwest all had rapid nonmetropolitan population increase between 1950 and 1970, and were the only subregions with net migration gain over both decades.

Turning now to the most recent period, 1970-73, Maps 2 and 3 clearly show that the recent upsurge in nonmetropolitan growth is not

restricted to selected areas of the nation. All 26 subregions had population growth between 1970 and 1973, and 24 of these had higher rates than in the preceding decade. The only exceptions were the Lower Great Lakes Industrial Belt (5) and the Gulf of Mexico and South Atlantic Coast (17). In the 1960s seven subregions were declining in population, and they all reversed from decline to growth in 1970-73. These include the northern and southern Great Plains (22, 23) the southern Corn Belt (9), the Mississippi Delta (16), the Cotton Belt (15), the Coastal Plain Tobacco and Peanut Belt (14), and the Southern Appalachians (11). The turnaround areas of the 1960s, moreover, (subregions 10, 19 and 20) accelerated their growth, with annual rates approximately twice as great or more in 1970-73 as in 1960-70. After no growth in the 1960s, the Rio Grande (21) bounced back with a higher rate of growth in the early 1970s than in the 1950s.

Perhaps the most noticeable feature of the net migration map is the orderly progression over the three periods, found in 22 of the 26 subregions, towards less outmigration or more inmigration. Though most subregions were losing net migrants in the 1960s, this period had increased retention of the population compared with the 1950s, in the sense that either net outmigration was less, or net inmigration was more. This then, anticipated the major switch from outmigration to inmigration in the latest period, when the number of subregions gaining net migrants was 23 compared with 5 in 1960-70. The only three areas with net migration losses in the most recent period, the Delta, the Cotton Belt, and the Coastal Plain Tobacco and Peanut Belt, all still have a large black population.

Some County Characteristics Associated with Growth

A major post World War II social trend in the United States has been the expansion and development of institutions of higher learning. Many of these are located in nonmetropolitan areas, and they represent an important economic resource and stimulus for population growth. Also, their possible indirect effects should not be overlooked: They have greatly increased the availability and quality of higher education in nonmetropolitan areas and made the effected communities more attractive for other development.

The first panel of Table 4 classifies counties both according to adjacency and presence of a senior State college. Counties with State colleges have higher growth rates than those that do not in all three decades, both those adjacent and nonadjacent to SMSAs. The effect of having a State college against lacking one appears to be greatest on county growth and net migration in the 1960s and least in the 1970-73 period. Note also that these institutions cannot be considered a full explanation for the increase in nonmetropolitan growth, since growth in the early 1970s is greater than in the earlier periods whether or not a state college is present. A comparison with Table 2, moreover, shows the group of nonadjacent nonmetropolitan counties without State colleges were growing more rapidly than all metropolitan counties combined in 1970-73.

Eventually, counties with senior State colleges should experience a drop in students as the decline in the birth rate since 1960 affects enrollments. But communities and counties containing State colleges are unlikely to return to their earlier size and status.

An increasingly important factor in nonmetropolitan development has been the growth of recreation and retirement activities, often occurring together in the same localities. Recreational employment is not easily determined, but by means of net migration estimates by age, it is possible to identify counties receiving significant numbers of retired people. Using unpublished estimates prepared by Gladys Bowles of the Economic Research Service in joint work with Everett Lee at the University of Georgia, counties were identified in which there was a net inmigration of 10 to 14 percent, or 15 percent or more, from 1960 to 1970 of white residents who were age 60 and over in 1970. There is a strong consistent association between the migration of older people and total population growth and net migration, for both adjacent and nonadjacent counties. Unlike the college variable, however, the growth differential between counties grouped by net migration of older people is greater in 1970-73 than in 1960-70. Nonadjacent counties with less than 10 percent migration of older people had a low rate of population growth and net migration in the early 1970s, but these figures were still above the rates for all metropolitan counties. (There is negligible overlap between the State College and retirement counties).

There is at least one type of county that has experienced diminished population retention in recent years. Military activity was a major rural growth industry in the period following World War II. Military bases were disproportionately located in nonmetropolitan areas, and they employed many civilians as well as military personnel. Since 1970, however, the number in the armed forces stationed in the United States has declined about 20 percent. Here we have distinguished

nonmetropolitan counties--there are only 28 in all--where 10 percent or more of the total 1970 population consisted of military personnel. Table 4 shows that these counties grew very rapidly in the 1950s, less so in the 1960s, and actually declined in the 1970s. Decade percent change figures for 1950-60 and 1960-70 were 59 and 23 percent, respectively. These counties also shifted from gain to loss due to net migration, with a net outmovement of 66,000 people over 1970-73.

We have also considered two other variables known to be associated with nonmetropolitan population loss. Among the most uniformly heavy losers of population in prior decades were the nonmetropolitan counties of the South having a predominantly black population. Table 5 gives annual rates of population change and net migration for nonmetropolitan counties in the Census South classed by the percent of the population black at the beginning of each decade. In counties with more than 40 percent of their population black, there is out migration over each time period, and generally decline in population as well. But the rate of outmigration is greatly reduced in 1970-73 compared with earlier years. In the 1950s and 1960s, counties with very low proportions of blacks, (less than five percent) were also declining and losing due to net migration. Most rapid growth, or slowest decline was among the counties from five to 40 percent black. A new pattern emerged in the early 1970s, however. Among counties adjacent to SMSAs, those with less than five percent of their population black were growing rather rapidly and gaining due to net migration. In nonadjacent counties, the group with lowest proportions black were actually growing and gaining net migrants

more rapidly than any other. Many counties in the southern sub-regions of population turnaround have a very low proportion black.

Similarly, nonmetropolitan counties in the United States with a high proportion of their workforce employed in agriculture have tended to have more substantial population loss, as labor demands in farming decreased. Counties were classed by the percent of the employed persons engaged in agriculture at the beginning of each decade in Table 6. Counties in the nation with more than 40 percent of their workforce in agriculture had a net migration loss over all three time periods, and generally population decline as well, though there is improved population retention with a lower rate of outmigration in the 1970-73 period. In the 1950s for both locations, and also in the 1960s for those not adjacent to an SMSA, counties with less than five percent of the workforce in agriculture also declined in population and lost migrants, but by 1970-73 these counties had relatively high rates of growth and gain due to net migration. This pattern is rather like that just described for the proportion black in the South. Over the nation it is often the areas with little farming activity that have scenic qualities, including wilderness and lakes or reservoirs, and thus are attractive for recreation activities and retirement residents. Many such areas have also gained new manufacturing employment in recent years.

Attracting new industry has been a cornerstone in rural development programs aimed at reversing population decline. Indeed, the decentralization trend in U.S. manufacturing has been a major factor in transforming the rural and small town economy, especially in the upland parts of the South. To test the assumption often made

that manufacturing is associated with nonmetropolitan growth, we have classified nonmetropolitan counties in Table 7 by the percent of employed populationin manufacturing at the beginning of each decade. For the first two decades there is a consistent stepwise relationship in the expected direction, with counties, either adjacent or not adjacent to an SMSA, having higher rates of growth (or lower decline) in population and net migration the higher the proportion employed in manufacturing.

With the new trend in 1970-73, however, this is not the case, for counties intermediate in manufacturing concentration show the greatest gains in population and net migration. Thus, although growth in manufacturing has been important in the revival of nonmetropolitan population growth, the recent reversal of population trends has not been focussed in areas already heavily dependent on manufacturing. Nor did we find 1970-73 growth to be greatest in counties with the largest percent increase in the number employed in manufacturing over 1960-70, in a tabulation not included here. There is evidence that growth in employment in trade and other non-goodsproducing sectors has recently become more important in nonmetropolitan areas. Data on covered social security employment shows that manufacturing jobs comprised just 18 percent of all nonmetropolitan employment growth between 1969 and 1973, compared with 50 percent from 1962 to 1969.

We have shown that southern nonmetropolitan counties with a high percentage black, and all nonmetropolitan counties with a high percent of their workforce in agriculture and/or a low percent in

manufacturing have had slow growth or decline, and net outmigration over the three time periods. A significant trend during this time, however, has been a decline in the proportion of nonmetropolitan people who live in these types of counties. In the South in 1950, 23 percent of the nonmetropolitan population lived in counties in which more than four out of ten persons were black, whereas 15 percent did so in 1970. The proportion of the U.S. nonmetropolitan population living in counties with more than four out of ten employed persons in agriculture dropped from 31 to less than one percent over this 20 year interval. Similarly, in 1950, 39 percent of the nonmetropolitan population lived in counties with less than one out of ten employed persons in manufacturing, but this figure dropped to 18 percent by 1970. We entered the 1970s then, with a considerably lower proportion of nonmetropolitan people living in traditional settings of population decline. This shift in population composition has undoubtly facilitated the recent growth in many parts of nonmetropolitan America.

CONCLUSION

In sum, the United States has entered a period of greatly reduced growth for its major metropolitan areas and of largely unpredicted demographic revival for most of its rural and small town areas. How long this will last is unknown, but the effect is already significant and none of us has ever seen its like before. The net movement into the nonmetropolitan areas is now as rapid as the movement out of them was in the 1960s, although one can not yet make the same statement for a comparison with the high tide of metropolization of the 1950s.

We believe our presentation of the geographic and residential-type dimensions of recent change shows the pervasive nature of the emergent trend. It is not merely a heightened metropolitan sprawl nor a feature of a few areas or a limited number of circumstances.

We have not attempted here to go deeply into the probable causes of the phenomenon, or to evaluate its effects. However, we have no hesitation in asserting that noneconomic factors are playing a critical role in the new trend. Will the shift in the direction of net migration result merely in an urbanization of more sections of the country or a greater contextual ruralization of a larger segment of the population? Perhaps it can be argued that both will occur, though we found that, in contrast with earlier times, the most rapid nonmetropolitan growth in the 1970s was in entirely rural counties. Under conditions of general affluence, low total population increase, easy access to all areas through improved transportation and communication, modernization of rural life, and large metropolitan concentrations in which the advantages of urban life are seen to be diminished, a downward shift to smaller communities may be both feasible and desirable.

In any event, the rules of reference for our thinking about the residential distribution of the population are changed just as surely as the events of the 1940's shocked a reluctant demographic fraternity into a reapprasial of the possibilities in fertility trends. We also strongly suspect that as with the postwar baby boom, trends of the type here described are unlikely to be limited to one nation in the western world. At least for this period of time in the

United States, migration and population growth is not simply a part of an irreversible trend of metropolitan concentration reflecting the inexorable forces of economies of scale.

Table 1. Population and Net Migration Numbers and Percentages for Metropolitan and Nonmetropolitan Counties, United States 1950-60, 1960-70, 1970-73.[a]

	Total	Metropolitan[b]	Nonmetropolitan
		(Numbers in thousands)	
Population			
1950	151,174	100,772	50,402
1960	179,157	127,241	51,916
1970	203,124	148,959	54,165
1973	209,852	153,257	56,595
Net migration			
1950-60	2,733	8,939	-6,206
1960-70	3,187	6,085	-2,898
1970-73	1,608	486	1,122
Percent change in population			
1950-60	18.5	26.3	3.0
1960-70	13.4	17.1	4.3
1970-73	3.3	2.9	4.5
Percent net migration[c]			
1950-60	1.8	8.9	-12.3
1960-70	1.8	4.8	-5.6
1970-73	.8	.3	2.1

[a] The 3100 county units employed here include 24 election districts in Alaska. The independent cities in Virginia were combined with adjacent counties.

[b] Metropolitan counties as of September 1974.

[c] Based on initial population.

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Table 2. Annual Rates of Population Change and Net Migration, by Metropolitan and Nonmetropolitan Location Categories, United States 1950-60, 1960-70, 1970-73.

County characteristic and location	Annual rate of population change			Annual rate of net migration			(Number of Counties)
	1950-60	1960-70	1970-73	1950-60	1960-70	1970-73	
United States	1.69	1.25	1.00	.17	.17	.24	(3100)
Metropolitan	2.32	1.57	.87	.78	.44	.10	(630)
SMSAs 1 million up							
Core counties	1.70	1.07	.06	.35	.06	-.59	(48)
Fringe counties	4.42	2.88	1.55	2.75	1.67	.73	(129)
SMSAs 250,000 to 1 million	2.37	1.61	1.25	.70	.42	.39	(260)
SMSAs less than 250,000	2.08	1.43	1.57	.35	.18	.65	(193)
Nonmetropolitan	.30	.42	1.35	-1.21	-.55	.62	(2470)
Adjacent	.55	.71	1.43	-.90	-.26	.72	(1009)
SLP 10,000 up[a]	1.12	1.00	1.38	-.39	-.04	.62	(256)
2,500-10,000	.04	.38	1.43	-1.37	-.49	.79	(479)
less than 2,500	-.44	.24	1.78	-1.83	-.62	1.03	(274)
Not adjacent	.02	.10	1.25	-1.55	-.88	.51	(1461)
SLP 10,000 up[a]	1.03	.62	1.32	-.68	-.54	.48	(254)
2,500-10,000	-.48	-.24	1.03	-2.00	-1.18	.39	(578)
less than 2,500	-.98	-.40	1.51	-2.39	-1.17	.83	(629)

[a]SLP stands for population size of largest place in the county as of 1970.

Table 3. Percent of Counties Growing, and Percent Gaining through Net Migration, by Metropolitan and Nonmetropolitan Location, United States 1950-60, 1960-70, 1970-73.

	1950-60	1960-70	1970-73	(N)
Percent of counties growing:				
Metropolitan	89	91	87	(630)
Nonmetropolitan	41	48	77	(2470)
Adjacent	50	60	84	(1009)
Not adjacent	33	39	70	(1461)
All counties	50	56	78	(3100)
Percent of counties gaining by net migration:				
Metropolitan	58	62	68	(630)
Nonmetropolitan	12	22	63	(2470)
Adjacent	17	30	68	(1009)
Not adjacent	10	18	60	(1461)
All Counties	21	31	64	(3100)

Table 4. Annual Rates of Population Change and Net Migration by Presence of a Senior State College in the County, Net Inmigration at Retirement Ages, and Concentration of Military Personnel, Nonmetropolitan United States 1950-60, 1960-70, 1970-73.

County characteristic and location	Annual rate of population change			Annual rate of net migration			(Number of Counties)
	1950-60	1960-70	1970-73	1950-60	1960-70	1970-73	
Presence of senior state college in county:							
County is adjacent to SMSA:							
State college	.85	1.37	1.78	-.63	.31	.98	(81)
No	.51	.60	1.38	-.95	-.35	.68	(928)
County not adjacent to SMSA:							
State college	.88	1.05	1.74	-.74	-.11	.89	(105)
No	-.13	-.08	1.14	-1.69	-1.29	.43	(1356)
Net inmigration rate, 1960-70, for white persons 60 years old and over in 1970:							
County is adjacent to SMSA:							
15% or more	2.14	2.83	3.92	.90	2.08	3.42	(92)
10-14%	.45	1.08	2.19	-1.08	.02	1.35	(78)
Other	.44	.49	1.12	-1.03	-.49	.39	(841)
County not adjacent to SMSA:							
15% or more	.51	1.57	3.24	-.80	.78	2.62	(113)
10-14%	-.01	.66	1.77	-1.41	-.17	1.13	(87)
Other	-.02	-.06	1.02	-1.61	-1.07	.27	(1261)
Percent of total population who are military personnel:							
10% or more	4.53	2.09	-.10	2.08	.20	-1.73	(28)
less than 10%	.23	.39	1.38	-1.26	-.56	.68	(2442)

Table 5. Annual Rates of Population Change and Net Migration, for Counties Classified by Percent of the Population at the Beginning of Each Decade who are Black, Nonmetropolitan South, 1950-60, 1960-70, 1970-73.

Percent population black in county	Annual rate of population change			Annual rate of net migration		
	1950-60	1960-70	1970-73	1950-60	1960-70	1970-73
Adjacent to SMSA						
0-4	-.25	.33	1.60	-1.72	-.59	.87
5-19	.22	1.13	1.86	-1.33	.09	1.07
20-39	.57	.53	1.31	-1.17	-.62	.46
40 up	-.22	-.32	.47	-2.24	-1.71	-.47
Not adjacent to SMSA						
0-4	-.88	-.07	1.71	-2.41	-1.01	1.00
5-19	-.08	.55	1.27	-1.62	-.48	.43
20-39	-.11	.27	.99	-1.84	-.83	.18
40 up	-.40	-.72	-.29	-2.49	-2.07	-1.17

Table 6. Annual Rates of Population Change and Net Migration, for Counties Classified by Percent of the Employed Population who are in Agriculture at the Beginning of Each Decade, Nonmetropolitan United States 1950-60, 1960-70, 1970-73.

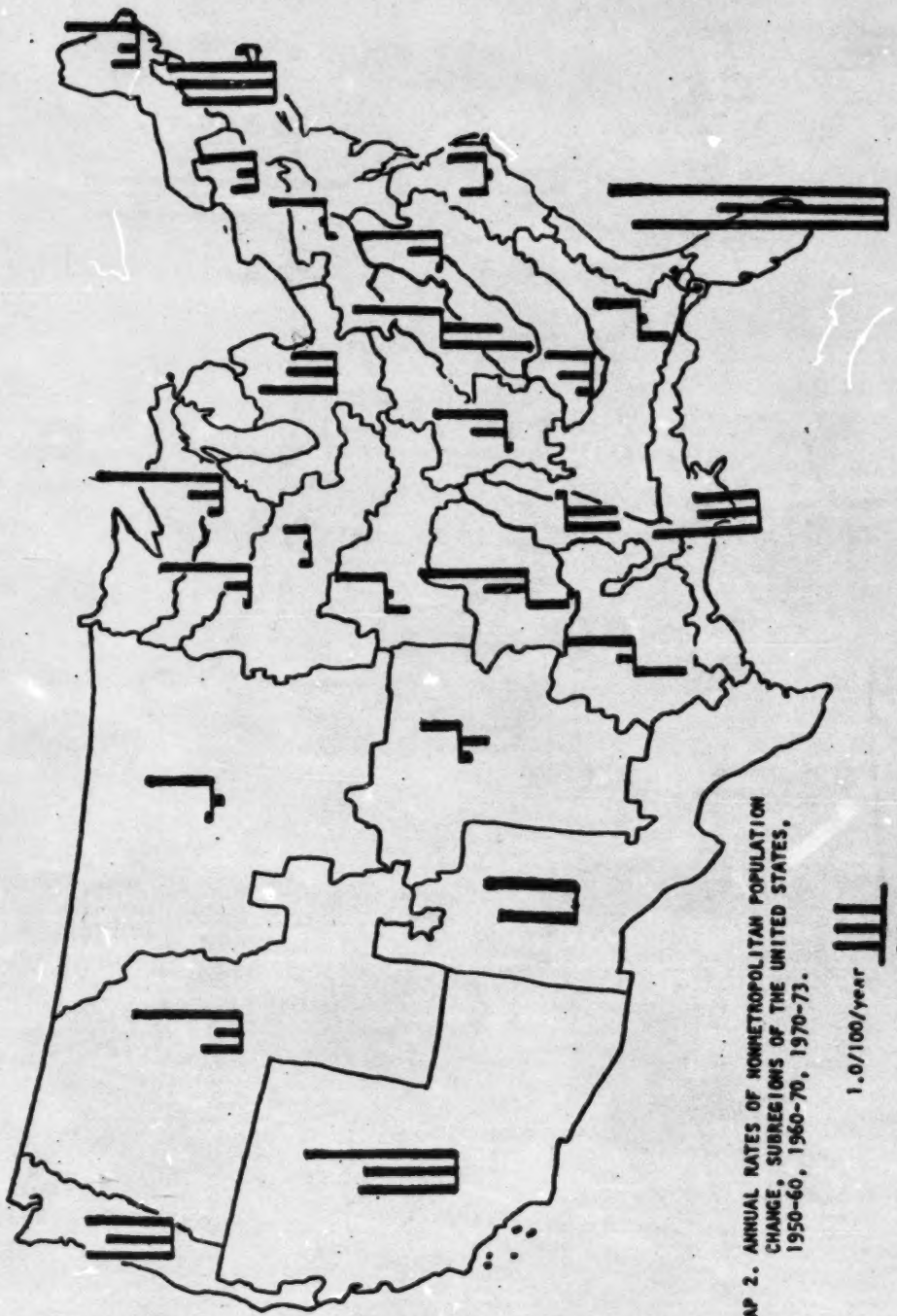
Percent of employed in agriculture in the county	Annual rate of population change			Annual rate of net migration		
	1950-60	1960-70	1970-73	1950-60	1960-70	1970-73
Adjacent to SMSA						
0-4	-.21	1.01	1.35	-1.56	.04	.59
5-9	1.39	.97	1.46	0	-.04	.74
10-19	1.08	.89	1.63	-.33	-.05	.97
20-29	1.00	.35	1.25	-.46	-.56	.58
30-39	.40	.04	1.01	-1.06	-.90	.45
40 +	-.56	-.72	-.73	-2.10	-1.81	-1.98
Not Adjacent to SMSA						
0-4	-.51	-.02	1.38	-2.32	-1.22	.53
5-9	.79	.70	1.58	-.89	-.36	.83
10-19	.92	.55	1.16	-.63	-.43	.47
20-29	.49	.02	.70	-1.07	-.86	.15
30-39	.16	-.55	.25	-1.35	-1.39	-.18
40 +	-.89	-1.14	.30	-2.43	-1.99	-.27

Table 7. Annual Rates of Population Change and Net Migration, for Counties Classified by Percent of Employed Population who are in Manufacturing at the Beginning of Each Decade, Nonmetropolitan United States, 1950-60, 1960-70, 1970-73.

Percent of employed in manufacturing in the county	Annual rate of population change			Annual rate of net migration		
	1950-60	1960-70	1970-73	1950-60	1960-70	1970-73
Adjacent to SMSA						
0-4	.27	.21	1.53	-1.39	-1.14	.42
5-9	.34	.75	2.20	-1.17	-.32	1.28
10-19	.18	.74	2.04	-1.20	-.16	1.42
20-29	.79	.55	1.27	-.55	-.31	.64
30 up	.97	.80	1.09	-.51	-.18	.34
Not Adjacent to SMSA						
0-4	-.38	-.58	.61	-2.09	-1.60	-.30
5-9	-.19	-.36	1.65	-1.78	-1.48	.83
10-19	.08	.27	1.23	-1.42	-.71	.32
20-29	.43	.40	1.40	-1.00	-.43	.76
30 up	.65	.37	1.05	-.88	-.57	.36

MAP 1. SUBREGIONS FOR STUDY OF POPULATION CHANGES

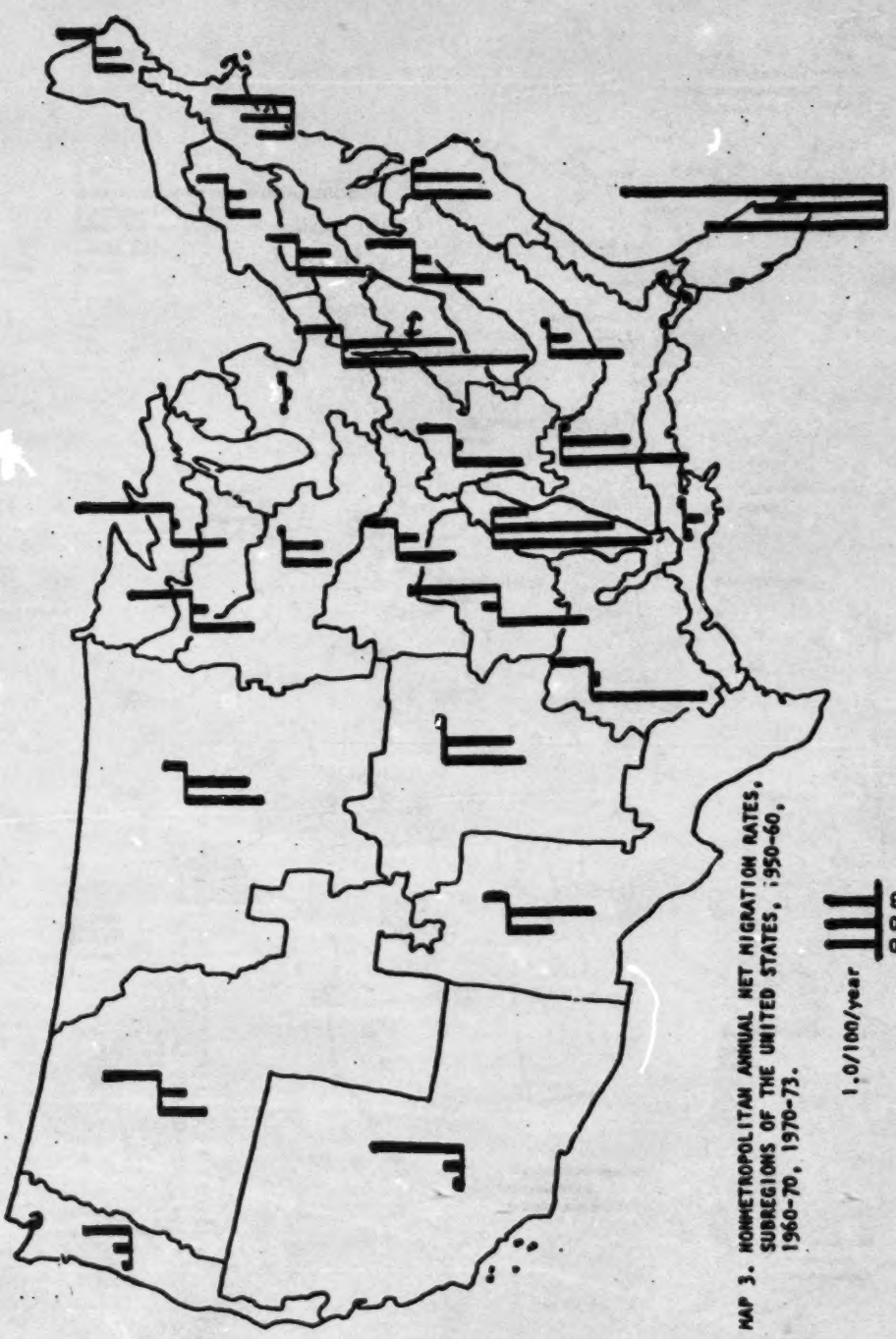
1. Northern New England - St. Lawrence
2. Northeastern Metropolitan Belt
3. Mohawk Valley and New York - Pennsylvania Border
4. Northern Appalachian Coal Fields
5. Lower Great Lakes Industrial
6. Upper Great Lakes
7. Dairy Belt
8. Central Corn Belt
9. Southern Corn Belt
10. Southern Interior Uplands
11. Southern Appalachian Coal Fields
12. Blue Ridge, Great Smokies, and Great Valley
13. Southern Piedmont
14. Coastal Plain Tobacco and Peanut Belt
15. Old Coastal Plain Cotton Belt
16. Mississippi Delta
17. Gulf of Mexico and South Atlantic Coast
18. Florida Peninsula
19. East Texas and Adjoining Coastal Plain
20. Ozark - Ouachita Uplands
21. Rio Grande
22. Southern Great Plains
23. Northern Great Plains
24. Rocky Mountains, Nevada Uplands, and Columbia Basin
25. Northern Pacific Coast (Including Alaska)
26. The Southwest (Including Hawaii)



MAP 2. ANNUAL RATES OF NONMETROPOLITAN POPULATION CHANGE, SUBREGIONS OF THE UNITED STATES, 1950-60, 1960-70, 1970-73.

1.0/100/year

1950-60
1960-70
1970-73



MAP 3. NONMETROPOLITAN ANNUAL NET MIGRATION RATES, SUBREGIONS OF THE UNITED STATES, 1950-60, 1960-70, 1970-73.

1.0/100/year

1950-60
1960-70
1970-73

FOOTNOTES

[1]Alaska is represented by 24 election districts for which comparable census data could be obtained over the time period. The Independent Cities of Virginia were combined with adjacent counties.

[2]The formulas used approximate the compound interest formula to yield annual rates:

Rate of Population Growth: $$\frac{P_2 - P_1}{k(1/2)(P_2 + P_1)}(100)$$

Rate of Net Migration: $$\frac{N}{k(1/2)(P_2 + P_1)}(100)$$

Where P_1 and P_2 are the populations at the beginning and end of the time interval respectively, k is the time interval (10 or 3 1/4), and N is the number of net migrants. See Henry S. Shryock, Jacob S. Siegel and Associates, The Methods and Materials of Demography, Washington; U.S. Government Printing Office, 1971, pp. 377-380.

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